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(54) Method of manufacturing an electro-optical device

(57) An object of the invention is to reduce the manufacturing cost of EL display devices and electronic devices incorporating the EL display devices.

An EL material is formed by printing in an active ma-

trix EL display device. Relief printing or screen printing may be used as the method of printing. Manufacturing steps of the EL layer is therefore simplified and reduction of manufacturing cost is devised.

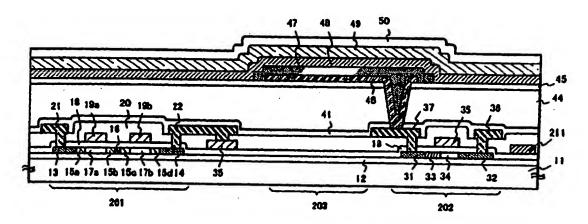


Fig. 2



EUROPEAN SEARCH REPORT

Application Number EP 00 11 3587

	DOCUMENTS CONSI	DERED TO BE R	ELEVANT		
Category	Citation of document witt of relevant pa	indication, where appro	priate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.C.7)
X	EP 0 901 174 A (SL 10 March 1999 (199 * page 10, paragra * page 11, paragra	9-03-10) phs 72-74 *	L CO)	1,6,7,9, 11,13,14	H01L27/15 H01L51/20
Y	. Pago 11, paragra	piis 79-62 -		8,12,15, 16	
Y	US 5 821 003 A (KI 13 October 1998 (1 + column 6, line 6	998-10-13)	ΓAL)	8,15	
X	EP 0 880 303 A (SE 25 November 1998 (* page 10, line 52 * page 11, line 1- * page 13, line 10 * page 14, line 17 * page 5, line 6-1 * page 6, line 11-	1998-11-25) -58 * 18 * -19 * -19 *		1-7,10	
Y	, • ,			12,16	
P,X	EP 0 954 205 A (SO	NY CORP)		1,6-9,	TECHNICAL FIELDS SEARCHED (INLCL7)
	3 November 1999 (1 * page 3, paragrap * page 4, paragrap * page 5, paragrap * page 7, paragrap	999-11-03) h 17 * hs 21,23,32 * h 37 *		11,13-15	HOIL
ŀ	PATENT ABSTRACTS 0 vol. 016, no. 084 28 February 1992 (& JP 03 269995 A (2 December 1991 (19 * abstract *	(E-1172), 1992-02-28) RICOH CO LTD).		1,6,7	
			/	ļ	
	The present search report has	been drawn up for all cla	ims	İ	
	Place of search	Date of completion	n of the search		Examiner
	THE HAGUE	3 March	2004	Faou	, M
X : partice Y : partice docum A : technological O : non-v	TEGORY OF CITED DOCUMENTS utarly relevant if taken alone utarly relevant if combined with anot pend of the same category plogical beckground writen disclosure lediale document	her D:	theory or principle userfler patent document cited in its document cited for comment of the same document.	ment, but publish he application other reasons	ed on, or

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EPO FORM 1503 03.62 (POLCO1)



EUROPEAN SEARCH REPORT

Application Number

Category	Citation of document with in of relevant pass	idication, where appropriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (InLCL7)
×	PATENT ABSTRACTS OF vol. 1998, no. 08, 30 June 1998 (1998-	JAPAN 06-30) SUMITOMO CHEM CO LTD),	1,6,7	
	_			
 		·		
				TECHNICAL FIELDS
				SEARCHED (Ini.CL7)
	The present speech record have	Ann drawn us for all alread		
	The present search report has t		<u> </u>	
	THE HAGUE	3 March 2004	Faou	Examiner 1 M
X : pert Y : part doc: A : tech	ATEGORY OF CITED DOCUMENTS icutarly relevant if laken alone icutarly relevant if combined with anoti uneni of the same category inological background —written disclosure	T: theory or princip E: earlier patent do after the filing do D: document cited L: document cited	le underlying the in cument, but publis tie in the application for other reasons	vention hed on, or

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 00 11 3587

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

03-03-2004

Patent document cited in search repor	t '	Publication date	·	Patent famil member(s)		Publication date
EP 0901174	A	10-03-1999	EP	0901174	A2	10-03-1999
EF 0301174 ·	~	10 00 1555	ĴΡ	11176576	A	02-07-1999
			US	6403236		11-06-2002
us 5821003	A	13-10-1998	CA	2163010		21-09-1995
			EP	0702075		20-03-1996
			WO	9525149		21-09-1995
			KR	246496		01-04-2000
			TW	406199	В 	21-09-2000
EP 0880303	A	25-11-1998	JP	10153967		09-06-1998
		•	DE	69727212		19-02-2004
			EP	0880303		25-11-1998
			CN	1212114		24-03-1999 05-06-2002
			ΕP	1211916		
			EP	1376716		02-01-2004 02-01-2004
			EP	1376717		04-06-1998
			WO	9824271	· · · ·	20-03-2003
			US	2003054186 2002155215		24-10-2002
•			US	2002155215		10-05-2001
			US US	2001001030		26-09-2002
			US	2002041926		11-04-2002
EP 0954205	Α	03-11-1999	JP	11273859	A	08-10-1999
E. 0,04200			EP	0954205	A2	03-11-1999
JP 03269995	Α	02-12-1991	NONE			
JP 10077467	A	24-03-1998	NONE			
						•

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82